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ABSTRACT

A system and method for use in an implanted cardiac pacing device, whereby an optimal AV delay is determined at or near lower rate (pacing) limit (LRL) by determining measuring the variance, or instability, of the QT interval for a set of intervals. In one embodiment, asynchronous "LRL pacing" with a first programmed AV delay determines a measure of QT variance. The difference between the maximum QT and the minimum QT is expressed as QTdifference (QTD). For each programmed AV delay the QT variance is again measured and the optimal AV delay produces minimum QTD. In another embodiment, AV delay is modulated around base values for a time. The difference between QT for the modulated AV and for the base AV (dQT) is measured at each base value, and the optimal AV delay corresponds to the smallest dQT.